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Title : PRELIMINARY STUDIES TO IDENTIFY CETACEAN INDICATOR SPECIES TO MONITOR THE STATE OF MARINE BIODIVERSITY IN WEST EUROPEAN WATERS

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Abstract : Cetaceans are top predators, amongst the most popular of all wildlife taxa, and are highly susceptible to environmental change. Consequently, they have considerable potential to be used as flagship indicators to monitor the changing state (health) of marine biodiversity. The Biscay Dolphin Research Programme (BDRP) is one of the few organisations to conduct year-round, annual population monitoring of offshore cetaceans. Since 1995, BDRP has carried out monthly, year-round cetacean surveys through the English Channel and Bay of Biscay, Western Europe using a repeatable scientific methodology. A large dataset of cetacean population data has been collected, with more than a quarter of the world's species observed. The dataset can be used to determine seasonal, annual and long-term population trends for individual cetacean species and aggregates of species. Annual population data is of great value in biodiversity monitoring because it enables the detection of early signs of species decline, when it is most appropriate to undertake conservation action and inform marine resource management policy. We conducted a number of statistical analyses (including generalised linear modelling and power analysis) to identify spatial, seasonal and inter-annual variations in abundance of each cetacean species recorded (from BDRP surveys) in the English Channel and Bay of Biscay. Here, we present preliminary findings of relevance to indicator selection, including identification of the most appropriate cetacean species to monitor, and the location, frequency and intensity of monitoring required to detect signals and species trends. Such a strategic approach is essential if we are to select appropriate indicators and monitor effectively changes in the health of the marine environment in west European waters.